TAW 1617

PATENT
Attorney Reference Number 4239-66646-06

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Joel Moss et al.
Application No.: 10/526,820
Filed: March 3, 2005
Confirmation No.: 5471
For: FACTORS THAT BIND INTESTINAL TOXINS
Examiner: To be assigned
Art Unit: 1617
Attorney Reference No.: 4239-66646-06

CERTIFICATE OF MAILING

I hereby certify that this paper and the documents referred to as being attached or enclosed herewith are being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: COMMISSIONER FOR PATENTS, P.O. BOX 1450, ALEXANDRIA, VA 22313-1450 on the date shown below.

Attorney or Agent for Applicant(s) Wayne L. Rupert

Date Mailed November 30, 2005

COMMISSIONER FOR PATENTS
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TRANSMITTAL LETTER

Enclosed for filing in the application referenced above are the following:

- ☒ Request for Corrected Filing Receipt
  - ☒ Exhibit A – Copy of incorrect Filing Receipt with correction shown in red ink
  - ☒ Exhibit B – Copy of Transmittal Letter
  - ☒ Exhibit C – Copy of Preliminary Amendment filed with application

☒ The Director is hereby authorized to charge any additional fees that may be required, or credit over-payment, to Deposit Account No. 02-4550. A copy of this sheet is enclosed.

☒ Please return the enclosed postcard to confirm that the items listed above have been received.

Respectfully submitted,

KLARQUIST SPARKMAN, LLP

By Wayne L. Rupert
Wayne W. Rupert
Registration No. 34,420

One World Trade Center, Suite 1600
121 S.W. Salmon Street
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cc: Docketing

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Joel Moss et al.
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Attorney or Agent for Applicant(s) Nanpeh Rapert

Date Mailed November 30, 2005

COMMISSIONER FOR PATENTS
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ALEXANDRIA, VA 22313-1450

REQUEST FOR CORRECTED OFFICIAL FILING RECEIPT

Applicants have received a Filing Receipt dated November 17, 2005 for the application referenced above, a copy of which is attached as Exhibit A, with requested correction shown in red ink.

Applicants note that the Filing Receipt incorrectly sets forth the Domestic Priority data as claimed by applicant as "This application is a 371 of PCT/US03/02882 01/31/2003 which claims benefit of 60/409,742 09/10/2002." The correct information is: "This application is a 371 of PCT/US2003/028282 09/09/2003 which claims benefit of 60/409,742 09/10/2002." A copy of the Transmittal Letter sent with the application indicating the correct reference to the international application is attached as Exhibit B. A copy of the Preliminary Amendment submitted with the application, correctly listing applicants' priority claim on page 2 thereof, is attached as Exhibit C.

Applicants request that the identified error be corrected and that a corrected official Filing Receipt be issued.

Please return the enclosed postcard to confirm that the items listed above have been received.

Please call the undersigned if any further information is required.

Respectfully submitted,

KLARQUIST SPARKMAN, LLP

By 
Wayne W. Rupert
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NIH/WR/WMS

UNITED STATES PATENT AND TRADEMARK OFFICE

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APPL NO.	FILING OR 371 (c) DATE	ART UNIT	FIL FEE REC'D	ATTY.DOCKET NO	DRAWINGS	TOT CLMS	IND CLMS
10/526,820 ✓	03/03/2005 ✓	1617	4100	4239-66646-06	6 ✓	49 64	10 ✓

CONFIRMATION NO. 5471

36218
KLARQUIST SPARKMAN, LLP
121 S.W. SALMON STREET, SUITE #1600
ONE WORLD TRADE CENTER
PORTLAND, OR 97204-2988

FILING RECEIPT

OC000000017414645

PREVIOUSLY DOCKETED

Date Mailed: 11/17/2005

Receipt is acknowledged of this regular Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please mail to the Commissioner for Patents P.O. Box 1450 Alexandria Va 22313-1450. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections (if appropriate).**

Applicant(s)

Joel Moss, Bethesda, MD;
Masatoshi Noda, Yotsukaido, JAPAN;

Power of Attorney: The patent practitioners associated with Customer Number **36218**.

Domestic Priority data as claimed by applicant

This application is a 371 of ~~PCT/US03/02882 01~~/31/~~2003~~* PCT/US2003/028282 09/09/2003
which claims benefit of 60/409,742 09/10/2002 ✓
(*)Data provided by applicant is not consistent with PTO records.

Foreign Applications

Projected Publication Date: 02/16/2006

Non-Publication Request: No

Early Publication Request: No

Title

Factors that bind intestinal toxins ✓

EXHIBIT
tabbies
A

Preliminary Class

514

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at http://www.uspto.gov/web/offices/pac/doc/general/index.html.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, http://www.stopfakes.gov. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4158).

LICENSE FOR FOREIGN FILING UNDER
Title 35, United States Code, Section 184
Title 37, Code of Federal Regulations, 5.11 & 5.15

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The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

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No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

SAS:gte 03/03/05 4239-66646-06 360165.doc

EXPRESS MAIL LABEL NO. EV510808334US
DATE OF DEPOSIT: March 3, 2005

TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A NATIONAL STAGE FILING UNDER 35 U.S.C. § 371		ATTORNEY'S DOCKET NUMBER 4239-66646-06
		U.S. APPLICATION NO. (If known, see 37 C.F.R. § 1.5) Not yet assigned
INTERNATIONAL APPLICATION NO. PCT/US2003/028282	INTERNATIONAL FILING DATE September 9, 2003	PRIORITY DATE CLAIMED September 10, 2002

TITLE OF INVENTION
FACTORS THAT BIND INTESTINAL TOXINS

APPLICANT(S) FOR DO/EO/US
Joel Moss and Masatoshi Noda

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

1. ☒ This is a **FIRST** submission of items concerning a filing under 35 U.S.C. § 371.
2. ☐ This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 U.S.C. § 371.
3. ☒ This is an express request to begin national examination procedures (35 U.S.C. § 371(f)) at any time rather than delay examination until the expiration of the applicable time limit set in 35 U.S.C. § 371(b) and PCT Articles 22 and 39(1). Items 5, 6, 9 and 21 indicated below are submitted to make this express request.
4. ☒ The United States has been elected in a Demand for International Preliminary Examination (Article 31).
5. ☒ A copy of the International Application as filed (35 U.S.C. § 371(c)(2))
   a. ☐ is attached hereto (required only if not communicated by the International Bureau).
   b. ☐ has been communicated by the International Bureau.
   c. ☒ is not required, as the application was filed in the United States Receiving Office (RO/US).
6. ☐ An English-language translation of the International Application (35 U.S.C. § 371(c)(2)).
   a. ☐ is attached hereto.
   b. ☐ has been previously submitted under 35 U.S.C. 154(d)(4).
7. ☒ Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. § 371(c)(3))
   a. ☐ are attached hereto (required only if not communicated by the International Bureau to the United States Receiving Office).
   b. ☐ have been communicated by the International Bureau.
   c. ☐ have not been made; however, the time limit for making such amendments has NOT expired.
   d. ☒ have not been made and will not be made.
8. ☐ An English-language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. § 371(c)(3)).
9. ☒ An oath or declaration of the inventor(s) (35 U.S.C. § 371(c)(4)).
10. ☐ An English-language translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. § 371(c)(5)).

Items 11 to 21 below concern document(s) or information included:

11. ☒ An Information Disclosure Statement under 37 C.F.R. §§ 1.97 and 1.98.
12. ☒ An assignment document for recording. A separate cover sheet in compliance with 37 C.F.R. §§ 3.28 and 3.31 and the Recordal fee of $40.00 are included.
13. ☒ A preliminary amendment.
14. ☐ An Application Data Sheet under 37 C.F.R. § 1.76.
15. ☐ A substitute specification.
16. ☒ Powers of attorney from the inventors.
17. ☐ A computer-readable form of the sequence listing in accordance with PCT Rule 13*ter*.2 and 37 C.F.R. §§ 1.821 - 1.825.
18. ☒ A second copy of the published International Application under 35 U.S.C. § 154(d)(4).
19. ☐ A second copy of the English-language translation of the international application under 35 U.S.C. § 154(d)(4).
20. ☒ Other items or information:
    - ☒ Abstract on a separate page.
    - ☐ Written Opinion.
    - ☒ Preliminary Examination Report.
    - ☒ International Search Report.
    - ☒ Copy of Reference Cited.

EV510808334US

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EXPRESS MAIL LABEL NO. EV510808334US
DATE OF DEPOSIT: March 3, 2005

U.S. APPLICATION NO. (If known, see 37 C.F.R. § 1.5)	INTERNATIONAL APPLICATION NO.	ATTORNEY'S DOCKET NUMBER
Not yet assigned	PCT/US2003/028282	4239-66646-06

The following fees are submitted:		
21. ☒ Basic national fee $300	$ 300.00	
22. ☒ Examination fee If international preliminary examination report prepared by USPTO and all claims satisfy novelty, nonobviousness (inventive step) and utility (industrial applicability) i.e., provisions of PCT Article 33(1)-(4) ..... $100 All other situations $200	$ 100.00	
23. ☒ Search fee Search fee (37 C.F.R. 1.445(a)(2)) has been paid on the international application to the USPTO as an International Searching Authority ..... $100 International Search Report prepared and provided to the Office ..... $400 All other situations $500	$ 100.00	
TOTAL OF 21, 22, and 23 =	**$ 500.00**	

☐ Additional fee for specification and drawings filed in paper over 100 sheets (excluding sequence listing or computer program listing filed in electronic medium). The fee is $250 for each additional 50 sheets of paper or fraction thereof.

Total Sheets	Extra Sheets	Number of each additional 50 or fraction thereof (round up to a whole number)	RATE		
62 - 100	0 / 50 =	0	x $250	$ 0.00	

Surcharge of **$130.00** for furnishing the oath or declaration later than 30 months from the earliest claimed priority date (37 C.F.R. § 1.492(e)).	**$ 0.00**	

CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE		
Total claims	49 - 20 =	29	x $50.00	$ 1,450.00	
Independent Claims	7 - 3 =	4	x $200.00	$ 800.00	
MULTIPLE DEPENDENT CLAIM(S) (if applicable)			+ $360.00	$ 0.00	
TOTAL OF ABOVE CALCULATIONS =				$ 2,750.00	
☐ Reduction of 1/2 for filing by small entity. Small entity status is claimed for this application.				$ 0.00	
SUBTOTAL =				$ 2,750.00	
Processing fee of **$130.00** for furnishing the English translation later than 30 months from the earliest claimed priority date (37 C.F.R. §§ 1.492(f)). +				$ 0.00	
TOTAL NATIONAL FEE =				$ 2,750.00	
Fee for recording the enclosed assignment (37 C.F.R. § 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 C.F.R. §§ 3.28, 3.31). **$40.00** per property. +				$ 40.00	
TOTAL FEES ENCLOSED =				$ 2,790.00	
				Amount to be refunded	$
				Amount to be charged	$

a. ☒ A check in the amount of $ 2,790.00 to cover the above fees is enclosed.

b. ☐ Please charge my Deposit Account No. _____ in the amount of $ _____ to cover the above fees. A duplicate copy of this sheet is enclosed.

c. ☒ The Director is hereby authorized to charge any additional fees that may be required, or credit any overpayment, to Deposit Account No. 02-4550. A duplicate copy of this sheet is enclosed.

d. ☒ Please return the enclosed postcard to confirm that the items listed above have been received.

NOTE: Where an appropriate time limit under 37 C.F.R. § 1.494 or § 1.495 has not been met, a petition to revive (37 C.F.R. § 1.137(a) or (b)) must be filed and granted to restore the application to pending status.

SEND ALL CORRESPONDENCE TO THE ADDRESS ASSOCIATED WITH

CUSTOMER NUMBER 36218

KLARQUIST SPARKMAN, LLP
One World Trade Center, Suite 1600
121 S.W. Salmon Street
Portland, OR 97204-2988

SIGNATURE

Susan Alpert Siegel, Ph.D.
NAME

43,121
REGISTRATION NUMBER

cc: Docketing

EXPRESS MAIL LABEL NO. EV510808334US
DATE OF DEPOSIT: March 3, 2005

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Moss *et al.*
Application No. Not yet assigned
Filed: Herewith
Confirmation No. Not yet assigned
For: FACTORS THAT BIND INTESTINAL TOXINS
Examiner: Not yet assigned
Art Unit: Not yet assigned
Attorney Reference No. 4239-66646-06

CERTIFICATE OF EXPRESS MAILING

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Agent for Applicant(s)

Date Mailed March 3, 2005

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PRELIMINARY AMENDMENT

Prior to examination of the above-referenced patent application, please amend the application as follows:

Amendments to the Specification begin on page 2.

Amendments to the Claims are reflected in the listing of claims, which begins on page 3.

Remarks begin on page 12.

Amendments to the Specification

Please replace the paragraph beginning at page 1, line 3, immediately following the title, with the following rewritten paragraph:

--PRIORITY CLAIM

This is the § 371 U.S. National Stage of International Application No. PCT/US2003/028282, filed September 9, 2003, which was published in English under PCT Article 21(2), which in turn claims the benefit of U.S. Provisional Application No. 60/409,742, filed September 10, 2002, which is incorporated by reference in its entirety.--

Please insert the attached Abstract as page 43 of the specification.

Claims

1. (original) A method for treating a subject having an infection caused by an Stx-producing organism by administering to the subject a therapeutically effective amount of hop bract tannin.

2. (original) The method of claim 1 further comprising administering to the subject a therapeutically effective amount of an antibiotic, the antibiotic being effective to treat an infection with the Stx-producing organism.

3. (original) The method of claim 2, wherein the antibiotic is selected from the group consisting of cefixime, tetracycline, ciprofloxacin, co-trimoxazole, norfloxacin, ofloxacin, fosfomycin and kanamycin and combinations thereof.

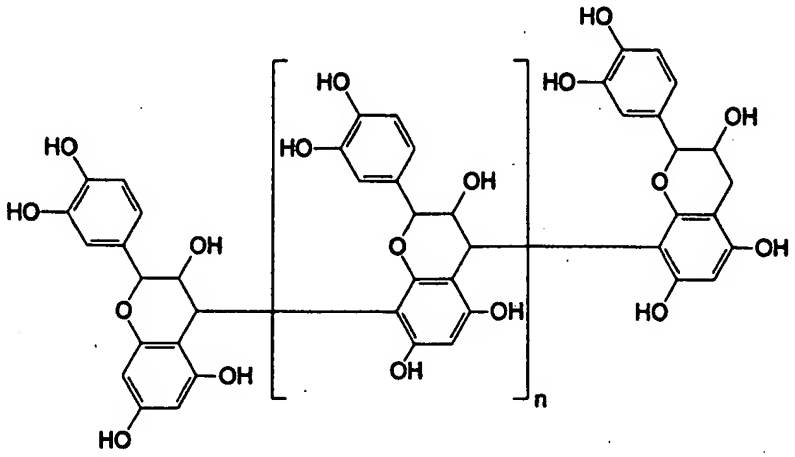
4. (original) The method of claim 1, wherein the hop bract tannin comprises a catechin polymer.

5. (original) The method of claim 4, wherein the catechin polymer comprises a polycatechin between a 10-mer and a 30-mer.

6. (original) The method of claim 1, wherein the infection is an enteric infection.

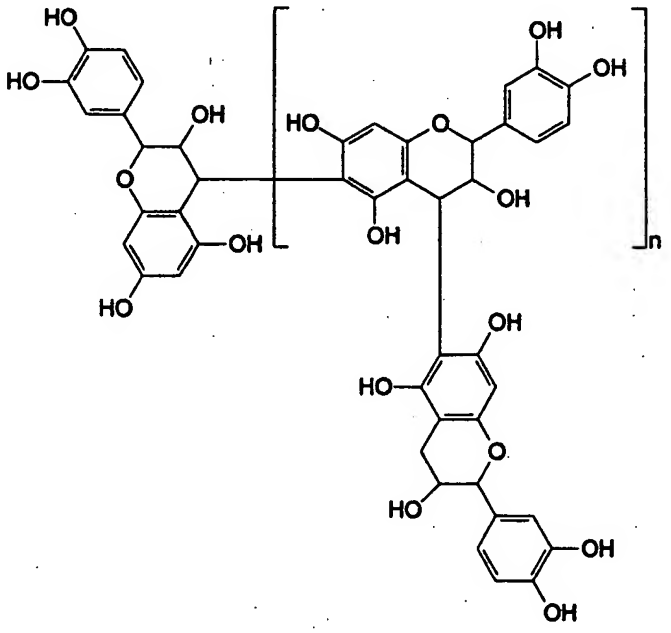
7. (original) The method of claim 6, wherein the hop bract tannin is administered enterically.

8. (original) The method of claim 5 where the polycatechin has the formula



where n=8 to 28.

9. (original) The method of claim 5 where the polycatechin has the formula



where n = 8 to 28.

10. (original) The method of claim 1, wherein the hop bract tannin comprises a fraction isolated from a hop bract extract.

11. (original) The method of claim 10, wherein the fraction has a weight-average molecular mass between 5kDa and 30 kDa.

12. (original) The method of claim 1, wherein the Stx-producing organism comprises an Stx1-producing organism.

13. (original) The method of claim 1, wherein the Stx-producing organism is a Shiga toxin-producing *Eschericia coli*.

14. (original) The method of claim 1, wherein the infection is an enteric infection, and the hop bract tannin comprises a polycatechin between a 10-mer and a 30-mer, which is administered enterically.

15. (original) The method of claim 14, wherein the infection presents clinically as severe diarrhea, hemorrhagic colitis, hemolytic uremic syndrome and thrombotic thrombocytopenic purpura.

16. (canceled)

17. (currently amended) ~~A method of treating a subject having an infection of an Stx-producing organism, comprising~~ The method of claim 1, wherein administering to the subject a therapeutically effective amount of hop bract tannin comprises:

selecting a hop bract tannin having an affinity for an Stx produced by the Stx-producing organism; and

administering the hop bract tannin to the subject enterically in an amount effective to alleviate a clinical presentation of the infection.

18. (original) The method of claim 17, wherein selecting comprises isolating hop bract tannin from a hop bract extract by affinity chromatography with a chromatographic matrix derivatized with the Stx.

19. (original) The method of claim 17, wherein selecting comprises obtaining a high molecular weight fraction of a hop bract extract.

20. (original) The method of claim 19, wherein the high molecular weight fraction has a weight-average molecular weight of 5 kDa or greater.

21. (original) The method of claim 17, wherein selecting comprises detecting a hop bract tannin component having an affinity for the Stx.

22. (currently amended) The method of claim 21, wherein detecting a component having an affinity for the Stx comprises detecting a signal generated by a biosensor, the biosensor having a hop bract tannin as ~~the~~ a bioreceptor portion of the biosensor.

23. (original) The method of claim 22 where the hop bract tannin is a polycatechin.

24. (original) The method of claim 23 where the polycatechin is between a 10-mer and a 30-mer polycatechin.

25. - 26. (canceled)

27. (original) The method of claim 17, wherein the clinical presentation of the infection is one or more of severe diarrhea, hemorrhagic colitis, hemolytic uremic syndrome and thrombotic thrombocytopenic purpura.

28. (canceled)

29. (original) A method for detecting the presence of an Stx in a biological sample, comprising:

contacting the biological sample with a hop bract tannin; and

detecting a macromolecular complex between the Stx and the hop bract tannin.

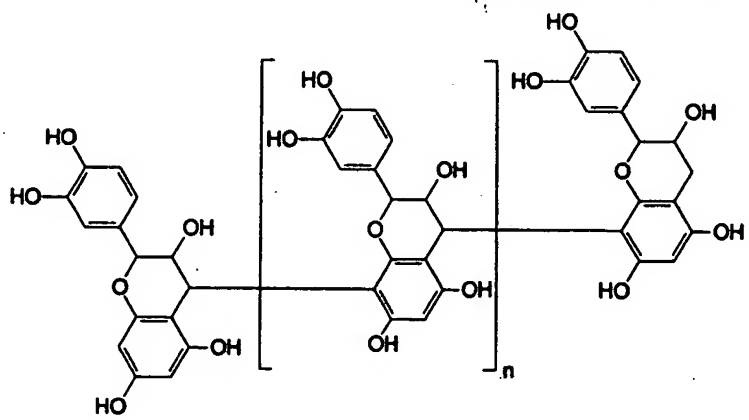
30. (original) The method of claim 29, wherein detecting comprises detecting a precipitate comprising the complex.

31. (original) The method of claim 29, wherein detecting the macromolecular complex between the hop bract tannin and the Stx comprises detecting an electrophoretic pattern associated with the presence of the macromolecular complex in the sample.

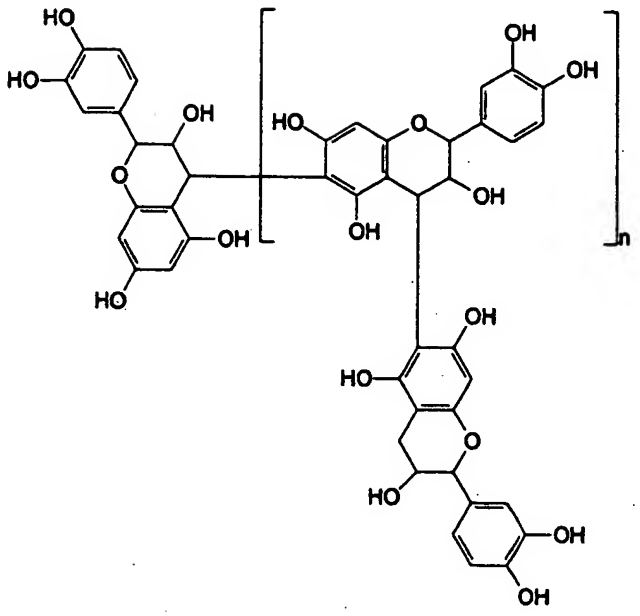
32. (original) The method of claim 29, wherein the hop bract tannin serves as a bioreceptor of a biosensor and detecting comprises measuring a change in a property of a transducer of the biosensor.

33. (original) The method of claim 29, wherein the hop bract tannin is a polycatechin between a 10-mer and a 30-mer.

34. (original) The method of claim 29, wherein the polycatechin has the forumla



where n = 8 to 28, or



where n = 8 to 28.

35. (original) The method of claim 29, wherein the hop bract tannin comprises a fraction isolated from a hop bract extract.

36. (original) The method of claim 35, wherein the fraction has a weight-average molecular mass between 5kDa and 30 kDa.

37. (currently amended) A method for isolating and purifying Stx-binding polyphenols, comprising:

contacting a mixture comprising [an]a Stx-binding polyphenolic compound isolated from *Humulus lupulus* with an Stx to form a macromolecular complex between the compound and the Stx;

isolating the macromolecular complex; and

separating the polyphenolic compound from the macromolecular complex to obtain a purified sample of the polyphenolic compound that binds Stx.

38. (original) The method of claim 37, wherein the Stx is coupled to an activated chromatographic matrix.

39. (original) The method of claim 37, wherein the Stx comprises he bioreceptor of a biosensor.

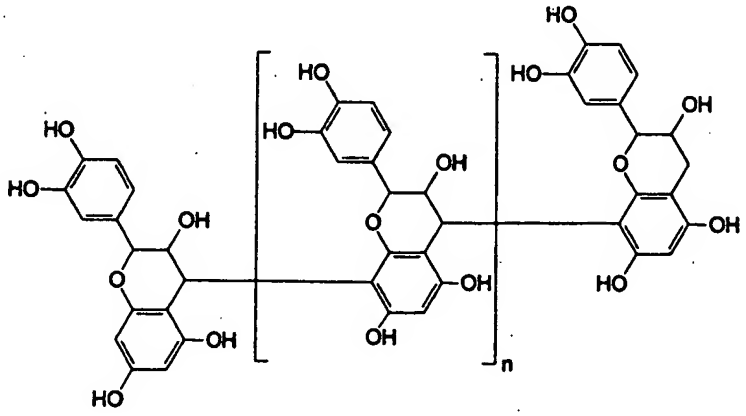
40. (original) The method of claim 38, wherein the Stx is Stx1.

41. (original) A method for prophylatic or post-exposure treatment of an inhaled Stx comprising administering a therapeutically effective amount of hop bract tannin intranasally to a subject.

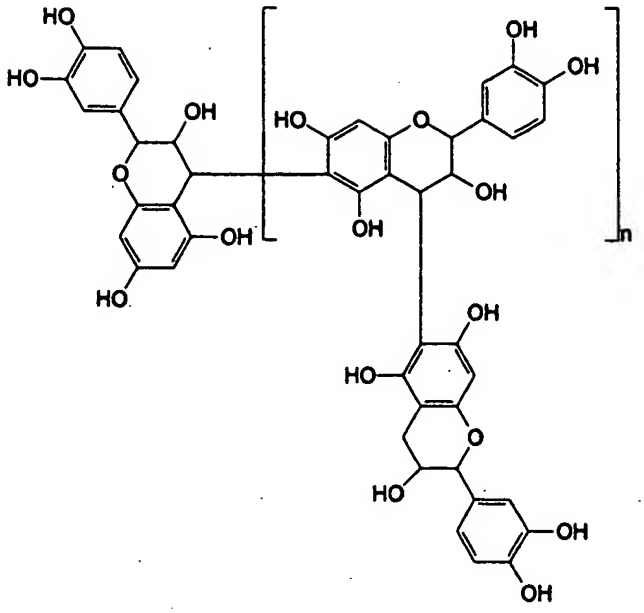
42. (original) A biosensor, comprising:
a hop bract tannin as a bioreceptor, and
a transducer.

43. (original) The biosensor of claim 42, wherein the hop bract tannin is a polycatechin between a 10-mer and a 30-mer.

44. (original) The method of claim 43, wherein the polycatechin has the forumla



where n = 8 to 28, or



where n = 8 to 28.

45. (original) The method of claim 42, wherein the hop bract tannin comprises a fraction isolated from a hop bract extract.

46. (original) The method of claim 45, wherein the fraction has a weight-average molecular mass between 5kDa and 30 kDa.

47.-57. (canceled)

58. (original) A method for neutralizing a bacterial toxin, comprising:
providing a hop bract tannin; and
contacting the bacterial toxin with the hop bract tannin to neutralize the toxin.

59. (original) The method of claim 58, wherein the bacterial toxin is selected from the group consisting of Shiga toxins and cholera toxins.

60. (original) The method of claim 58, wherein the hop bract tannin comprises a subfraction having a weight-average molecular weight from 5 kDa to 30 kDa.

61. (original) The method of claim 58, wherein the hop bract tannin comprises a polycatechin selected from the group of 10-mers to 30-mers, and mixtures thereof.

62. (original) An isolated polyphenolic component of a high molecular weight fraction of a hop bract extract, the high molecular weight fraction having a weight average molecular weight of greater than 5 kDa.

63. (original) A subfraction of a high molecular weight fraction of a hop bract extract, the high molecular weight fraction having a weight average molecular weight of greater than 5 kDa.

64. (original) The subfraction of claim 63, wherein the subfraction has a weight average molecular weight range selected from the group consisting of 5 kDa-30kDa, 5kDa-10kDa, 5kDa-8kDa, 8kDa-30kDa, 8kDa-10kDa and 10kDa-30kDa.

Remarks

By this Amendment the specification has been amended to reflect prior related applications and to add an abstract on a separate page.

Claims 16, 26, 28 and 47-57 have been canceled, solely to reduce the filing fee and not for reasons of patentability. Claim 25 was inadvertently not included in the parent PCT application. To conform with the requirements of U.S. patent practice, claim 25 is indicated to be canceled. Claims 22 and 37 have been amended to correct matters of form. Claim 17 has been amended to be in dependent form, solely to reduce the filing fee.

The present application is being filed with a reduced filing fee under 37 CFR 1.492(a)(4), because the international preliminary examination fee was paid to the United States Patent and Trademark Office, and the international preliminary examination report (IPER) stated that the criteria of novelty, inventive step (non-obviousness), and industrial applicability, as defined in PCT Article 33(1)-(4), have been satisfied for all the claims presented in the application entering the national stage. As the claim amendments were made solely to reduce the filing fee, and to correct matters of form, Applicants believe that they are entitled to the reduced fee. If the United States Patent and Trademark Office determines that the standard filing fee is due, please charge this fee to Deposit Account No. 02-4550.

No new matter has been added by this Amendment.

Conclusion

If any minor matters remain to be resolved before examination of this application, please call the undersigned at the telephone number listed below.

Respectfully submitted,

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